

## CLAIMS

What is claimed is:

1. A method of printing with an ink jet printer, the method comprising:

selectively applying at least one ink to a first area and a second area of a print medium, wherein said at least one ink is applied to said first area at a higher density than said second area;

measuring a first light scattering intensity value associated with said first area and a second light scattering intensity value associated with said second area; and

categorizing said print medium based on a comparison of said first light scattering intensity value and said second light scattering intensity value.

2. The method as recited in Claim 1, further comprising:

selectively setting at least one printing parameter based on said categorization of said print medium.

3. The method as recited in Claim 1, wherein categorizing said print medium based on said comparison further includes:

categorizing said print medium as swellable media if said first light scattering intensity value is different than said second light scattering intensity value by at least a defined threshold value.

4. The method as recited in Claim 1, wherein categorizing said print media based on said comparison further includes:

categorizing said print medium as porous media if said first light scattering intensity value is within a defined threshold value of said second light scattering intensity value.

5. The method as recited in Claim 1, wherein said first light scattering intensity value includes a first gloss scattering intensity value and said second light scattering intensity value includes a second gloss scattering intensity value, and categorizing said print medium based on said comparison further includes:

categorizing said print medium as porous media if said second gloss scattering intensity value is greater than said first gloss scattering intensity value by at least a defined threshold value.

6. The method as recited in Claim 1, wherein said first light scattering intensity value includes a first haze scattering intensity value and said second light scattering intensity value includes a second haze scattering intensity value, and categorizing said print media based on said comparison further includes:

categorizing said print medium as porous media if said second haze scattering intensity value is less than said first haze scattering intensity value by at least a defined threshold value.

7. The method as recited in Claim 1, wherein said first light scattering intensity value includes a first diffuse light scattering intensity value and said second light scattering intensity value includes a second diffuse light scattering intensity value, and categorizing said print media based on said comparison further includes:

categorizing said print medium as porous media if said second diffuse light scattering intensity value is less than said first diffuse light scattering intensity value by at least a defined threshold value.

8. The method as recited in Claim 1, wherein measuring said first light scattering intensity value associated with said first area and said second light scattering intensity value associated with said second area further includes measuring light scattered by said first and second areas.

9. The method as recited in Claim 1, wherein at least one of said first and second areas is applied as a diagnostic area.

10. The method as recited in Claim 1, wherein at least one of said first and second areas is applied as part of a printed file.

11. The method as recited in Claim 1, wherein selectively setting said at least one printing parameter based on said categorization of said print medium further includes setting a print mode based on said categorization of said print medium.

12. The method as recited in Claim 1, wherein said at least one ink includes a non-marking liquid.

13. An apparatus comprising:  
a printing mechanism configurable to selectively apply at least one ink to a first area of a print medium and a second area of said print medium, in a

manner such that said at least one ink is applied to said first area at a higher density than said second area;

a sense mechanism configurable to measure a first light scattering intensity value associated with said first area and a second light scattering intensity value associated with said second area; and

logic operatively coupled to said printing mechanism and said sense mechanism and configured to categorize said print medium based on a comparison of said first light scattering intensity value and said second light scattering intensity value, and based on said comparison selectively set at least one printing parameter.

14. The apparatus as recited in Claim 13, wherein said logic is configured to categorize said print medium as swellable media if said first light scattering intensity value is different than said second light scattering intensity value by at least a defined threshold value.

15. The apparatus as recited in Claim 13, wherein said logic is configured to categorize said print medium as porous media if said first light scattering intensity value is within a defined threshold value of said second light scattering intensity value.

16. The apparatus as recited in Claim 13, wherein said first light scattering intensity value includes a first gloss scattering intensity value and said second light scattering intensity value includes a second gloss scattering intensity value, and said logic is configured to categorize said print medium as porous media if said second gloss scattering intensity value is greater than said first gloss scattering intensity value by at least a defined threshold value.

17. The apparatus as recited in Claim 13, wherein said first light scattering intensity measurement includes a first haze scattering intensity measurement and said second light scattering intensity measurement includes a second haze scattering intensity measurement, and said logic is configured to categorize said print medium as porous media if said second haze scattering intensity value is less than said first haze scattering intensity value by at least a defined threshold value.

18. The apparatus as recited in Claim 13, wherein said first light scattering intensity value includes a first diffuse light scattering intensity value and said second light scattering intensity value includes a second diffuse light scattering intensity value, and said logic is configured to categorize said print medium as porous media if said second diffuse light scattering intensity value is less than said first diffuse light scattering intensity value by at least a defined threshold value.

19. The apparatus as recited in Claim 13, wherein said sense mechanism is configured to measure light scattered by said first and second areas.

20. The apparatus as recited in Claim 13, wherein said printing mechanism is configurable to apply at least one of said first and second areas as a diagnostic area.

21. The apparatus as recited in Claim 13, wherein said printing mechanism is configurable to apply at least one of said first and second areas as part of a printed file.

22. The apparatus as recited in Claim 13, wherein said logic is configured to set a print mode based on said categorization of said print medium.

23. The apparatus as recited in Claim 13, wherein said at least one ink includes a non-marking liquid.

24. A method comprising:

selectively applying at least one ink to an area of a print medium;

measuring a first light scattering intensity value associated with said area at a first time, and a second light scattering intensity value associated with said area at a second time subsequent to said first time; and

categorizing said print medium based on a comparison of said first light scattering intensity value and said second light scattering intensity value.

25. The method as recited in Claim 24, further comprising:

selectively setting at least one printing parameter based on said categorization of said print medium.

26. The method as recited in Claim 24, wherein categorizing said print medium based on said comparison further includes:

categorizing said print medium as swellable media if a difference between said first light scattering intensity value and said second light scattering intensity value exceeds a defined threshold value.

27. The method as recited in Claim 24, wherein categorizing said print medium based on said comparison further includes:

categorizing said print medium as swellable media based on a rate of change of light scattering intensity.

28. The method as recited in Claim 24, wherein categorizing said print medium based on said comparison further includes:

categorizing said print medium as porous media if a difference between said first light scattering intensity value and said second light scattering intensity value does not exceed a defined threshold value.

29. The method as recited in Claim 24, wherein said at least one ink includes a non-marking liquid.

30. A method comprising:

selectively applying at least one ink to a first area of a print medium; measuring a first light scattering intensity value associated with said first area and a second light scattering intensity value associated with a second unprinted area;

categorizing said print medium based on a comparison of said first light scattering intensity value and said second light scattering intensity value; and

selectively setting at least one printing parameter based on said categorization of said print medium.

31. The method as recited in Claim 30, wherein categorizing said print medium based on said comparison further includes:

categorizing said print medium as swellable media if said first light scattering intensity value is different than said second light scattering intensity value by at least a defined threshold value.

32. The method as recited in Claim 30, wherein categorizing said print medium based on said comparison further includes:

categorizing said print medium as porous media if said first light scattering intensity value is within a defined threshold value of said second light scattering intensity value.

33. The method as recited in Claim 30, wherein said at least one ink includes a non-marking liquid.

34. An apparatus comprising:

means for selectively applying at least one ink to a first area of a print medium and a second area of said print medium, in a manner such that said at least one ink is applied to said first area at a higher density than said second area;

means for measuring a first light scattering intensity value associated with said first area and a second light scattering intensity value associated with said second area; and

means for categorizing said print medium based on a comparison of said first light scattering intensity value and said second light scattering intensity value.

35. The apparatus as recited in Claim 34, further comprising, means for selectively setting at least one printing parameter based on said comparison.

36. A computer readable medium having computer implementable instructions comprising steps for:

selectively printing at least one ink to a first area and a second area of a print medium, wherein said at least one ink is applied to said first area at a higher density than said second area;

determining a first light scattering intensity value associated with said first area and a second light scattering intensity value associated with said second area; and

categorizing said print medium based on a comparison of said first light scattering intensity value and said second light scattering intensity value.

37. The computer readable medium as recited in Claim 36, further comprising steps for:

selectively establishing at least one printing parameter based on said categorization of said print medium.

38. A computer readable medium having computer implementable instructions comprising steps for:

selectively applying at least one ink to an area of a print medium;

determining a first light scattering intensity value associated with said area at a first time, and a second light scattering intensity value associated with said area at a second time subsequent to said first time; and

categorizing said print medium based on a comparison of said first light scattering intensity value and said second light scattering intensity value.

39. The computer readable medium as recited in Claim 38, further comprising:

selectively establishing at least one printing parameter based on said categorization of said print medium.

40. A computer readable medium having computer implementable instructions comprising steps for:

selectively applying at least one ink to a first area of a print medium;

determining a first light scattering intensity value associated with said first area and a second light scattering intensity value associated with a second unprinted area; and

categorizing said print medium based on a comparison of said first light scattering intensity value and said second light scattering intensity value.

41. The computer readable medium as recited in Claim 40, further comprising steps for:

selectively establishing at least one printing parameter based on said categorization of said print medium.